

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re patent application of:
John Stewart Young et al.

Application Serial No. 10/092,961

Filed March 4, 2002

DEVICES AND METHODS FOR SPINAL)
COMPRESSION AND DISTRACTION)

) Before the Examiner:
) Anu Ramana
)

) Group Art Unit 3732
)

) Atty Docket No.: 4002-2665/PC614.00
)

RECEIVED
OCT 01 2004
TECHNOLOGY CENTER P3700

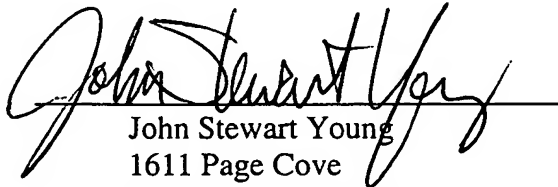
**AFFIDAVIT OF PRIOR INVENTION IN THE UNITED STATES TO
OVERCOME CITED PATENT OR PUBLICATION (37 C.F.R. § 1.131)**

I, John Stewart Young, hereby declare as follows:

1. I am the sole inventor of the subject matter disclosed and claimed in the above-identified patent application (hereafter the "Invention").
2. During all periods discussed herein, I was employed by Medtronic Sofamor Danek, Inc., a Tennessee corporation having offices at 1800 Pyramid Place, Memphis, Tennessee, 38132.
3. This Affidavit is being submitted to establish completion of the Invention in the United States prior to September 14, 2001.
4. All acts and events described, identified, or referred to herein occurred in the United States.
5. Prior to September 14, 2001, the Invention was successfully reduced to practice.
6. To evidence reduction to practice of the Invention, attached hereto as Exhibit A is a document entitled "Invention Disclosure" for Medtronic Sofamor Danek which indicates completion of a construct/prototype of the invention prior to September 14, 2001 (actual dates

blacked out.) The Invention Disclosure includes drawings of the construct/prototype. The dates of the drawings are prior to September 14, 2001 (actual dates blacked out.) Also blacked out from the drawings are notes and dimensions pertaining to the device shown therein.

WITNESS Affiant's hand this 23rd day of September, 2004.


John Stewart Young
1611 Page Cove
Memphis, TN 38119
Citizenship: USA

STATE OF TENNESSEE)
): ss
COUNTY OF SHELBY)

Before me, a Notary Public, in and for said County and State, personally appeared John Stewart Young, who, being first duly sworn upon his oath, acknowledged the execution of the foregoing "Affidavit" as his voluntary act and deed.

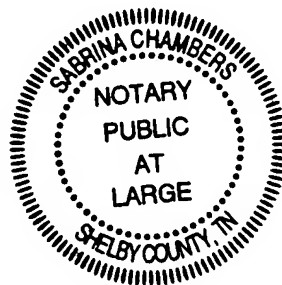
WITNESS my hand and Notarial Seal this 23rd day of September, 2004.


Notary Public

Printed: Sabrina Chambers

Resident of Fayette County

My Commission Expires:
MY COMMISSION EXPIRES:
October 6, 2007





00142

Title of Invention Locking Compressor/Distractor			Project No. or Name 8052-9436/8052-9455	
Inventor(s) John Stewart Young			Eng. Notebook No. & Pages	
Date Conceived [REDACTED]	Date Constructed [REDACTED]	Date First Tested [REDACTED]	Date Disclosed Outside Company [REDACTED]	
<p>1. Describe what is new or different about the subject matter of this invention:</p> <p>This patent covers a locking mechanism on a compressor or distractor, or any rack and pinion device. In the iteration shown it is included on a rack and pinion distractor, intended for thoracoscopic use. As shown it will allow movement of the rack in either direction only when the release is applied (when the ball on top of the assembly is grabbed), but it will allow distraction while the lock is applied. Using other tooth configurations you can limit this movement to compression (by reversing the teeth from those shown on 848-955-05) or stop movement altogether when the lock is applied (by duplicating the rack surface on the lock mechanism).</p> <p>2. Advantages of this invention over what was done before and problems solved:</p> <p>Current Thoracoscopic compressors do not have a lock mechanism, so force must be maintained by the user during use to maintain the compression or distraction, thus occupying space in the wound or taking up a portal. This device allows the user to leave it alone once the appropriate force is applied.</p> <p>3. Describe your idea on attached sheets, providing whatever drawings or other sketches are necessary to completely describe the idea. Copies of engineering notebook sheets may be provided. All addendum sheets must be signed, witnessed and dated.</p>				
Inventor (Print/Type) John Stewart Young Address: 1611 PAGE LOVE MEMPHIS TN 38119 Citizenship: US Signature John Stewart Young [REDACTED] Date		Witness (Print/Type) Joe A. Curtis Read, Witnessed and Understood Signature Joe A. Curtis [REDACTED] Date		
Inventor Address: Citizenship: Signature Date		Witness (Print/Type) JEFFREY WARREN BEALE Read, Witnessed and Understood Signature Jeffrey Warren Beale [REDACTED] Date		
Inventor Address: Citizenship: Signature Date		Signature Approval President, Technology Development		
Inventor Address: Citizenship: Signature Date		Signature Approval President, Thoracolumbar [REDACTED]		

INVENTION DISCLOSURE



Medtronic

SOFAMOR DANEK

Disclosure No. 00142

Project No. 8052-9436/8052-9455

Sheet 2 of 14

List patents, publications and products which you are aware of and which preceded your invention.

John Dietz, MD has a patent on a small rack and pinion compressor.

Inventor

J. Stewart Young

Date

Inventor

Date

Inventor

Date

Read, Witnessed and Understood

Joe A. Dietz

Date

Read, Witnessed and Understood

Jeffrey Warren Beale

Date

INVENTION DISCLOSURE



Medtronic

SOFAMOR DANEK

Disclosure No. 00142

Project No. 8052-9436/8052-9455

Sheet 3 of 14

Drawings and Description of Idea

Only a drawings of a distractor are attached to this patent, but as per the earlier description this mechanism can be applied to a compressor or distractor, or to a combination that prevents motion in either direction when the lock is applied. This distractor also shows the lock release as built into the mount for a distractor holder, which is a modified pituitary rongeur with a collet mechanism in the working end that allows the user to hold and maneuver the distractor while keeping the lock disengaged. This is only a feature that should be considered as one iteration of such a mechanism.

I am including a rendering showing a distractor attached to one M8MAS and one CDH ECLIPSE bone screw, plus production prints for the distractor.

Inventor

J. Stewart Gray

Date

Read, Witnessed and Understood

Joe A. Carter

Date

Inventor

Date

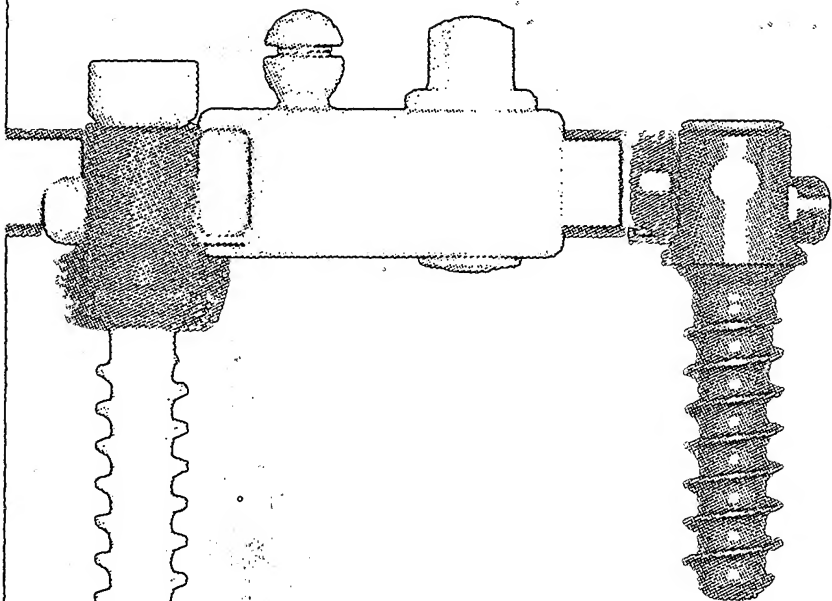
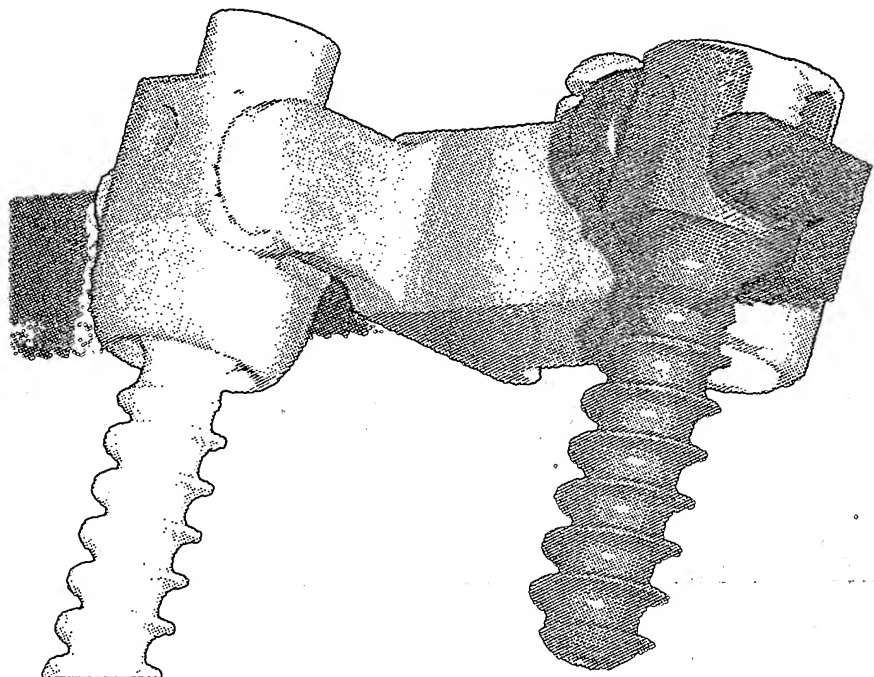
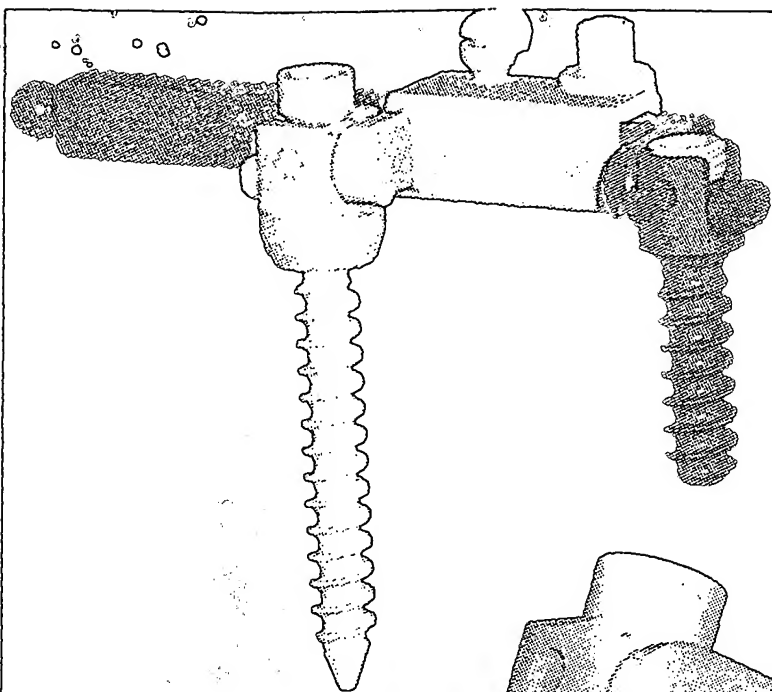
Read, Witnessed and Understood

Jeffery Warren Beale

Date

Inventor

Date

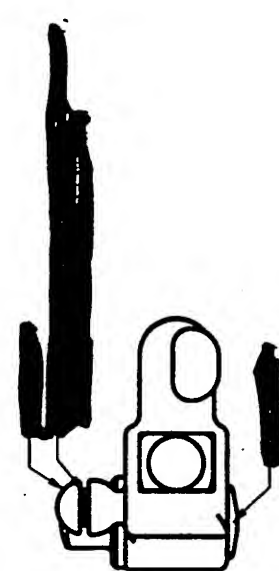
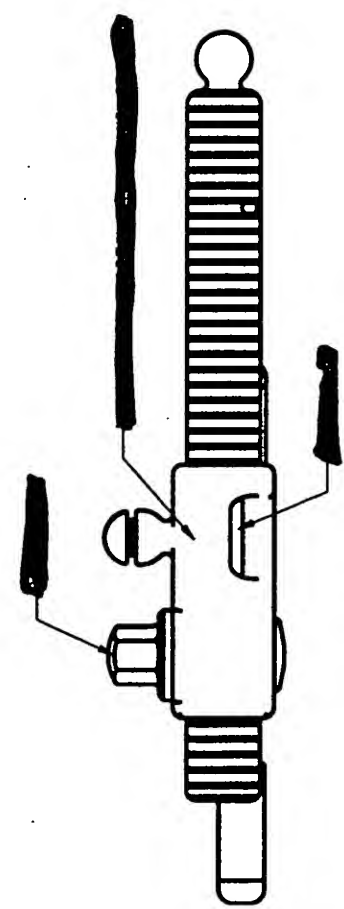
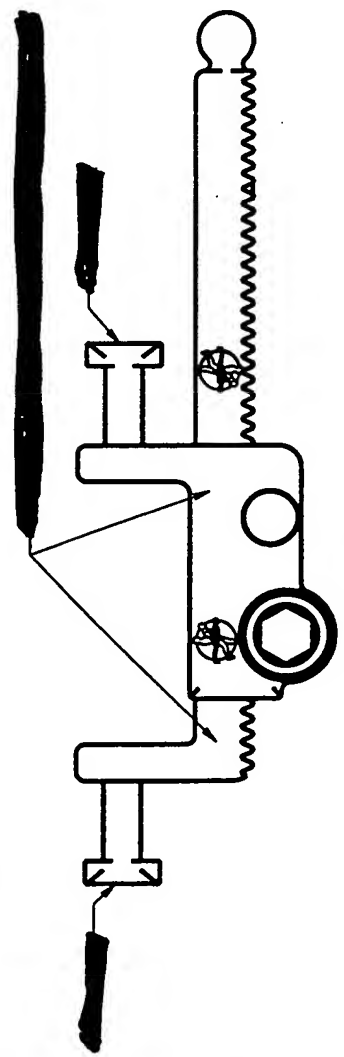


00142
 PS-S 814

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

REV	DESCRIPTION	DATE	BY
A	INITIAL RELEASE		JSY

848-955



Medtronic SOFAMOR DANEK MEDTRONIC SOFAMOR DANEK 1500 PLYMOUTH PLACE, RUMPLEY, MN 55453 TEL: 612-835-3333 FAX: 612-835-3444		SYSTEM NO. 848-955 TITLE DESCRIPTION RACK-AND-PINION DISTRACTOR PARTIAL SEE INDIVIDUAL COMP. LASER ETCH AS SHOWN SCALE NTS 848-955
DATE APPROVED DATE SCALE 1/4"=1"	DATE APPROVED DATE SCALE 1/4"=1"	CD HORIZON ECLIPSE RACK-AND-PINION DISTRACTOR SEE INDIVIDUAL COMPONENTS 848-955

INFORMATION CONTAINED IN THIS DOCUMENT IS UNCLASSIFIED
 BY MEDTRONIC SOFAMOR DANEK
 RELEASE OTHER THAN TO PERSONS FOR WHOM IT IS REQUIRED FOR PERFORMANCE OF THEIR WORK FOR MEDTRONIC SOFAMOR DANEK IS NOT AUTHORIZED.
 1. DO NOT SCALE DRAWING
 2. REMOVE ALL DIMENSIONS AND DIMENSION LINES
 3. 0.0/ FINISH UNLESS NOTED
 TOLERANCE UNLESS SPECIFIED
 UNLESS NOTED
 ±0.1
 ANGLES
 THIRD ANGLE PROJECTION
 CONTENTS OF THIS DRAWING ARE BASED ON THE MEDTRONIC SOFAMOR DANEK INTERPRETATION OF THE TITL. 50-104

J.S. Young
 Joe A. Dutton
 J. W. White

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

REV DESCRIPTION		DATE	BY
A	INITIAL RELEASE		JSY

848-955-01		848-955-01	
CD HORIZON ECLIPSE		DISTRACOR RACK	
848-955-01		848-955-01	
DATE		DATE	
APPROVED		APPROVED	
DATE		DATE	
SCALE		SCALE	
2:1		1/1	
A		A	

Medtronic
SOFAMOR DANEK

MEDTRONIC SOFAMOR DANEK MANUFACTURING
1240 PLEASANT PLAZA, NEWTON, MA 02459-1500
TEL: 617-552-3133 FAX: 617-552-3135

SECTION 8-8

CD HORIZON ECLIPSE

DISTRACOR RACK

THIRD ANGLE PROJECTION

CONTENTS OF THIS DRAWING ARE BASED
ON THE MEDTRONIC SOFAMOR DANEK
INTERPRETATION OF THE 11/15/1984

TOLERANCE UNLESS SPECIFIED

MILLIMETERS

±0.1

ANGLES

1. DO NOT SCALE DRAWING

2. REMOVE ALL DIMENSIONS AND

3. 0.001 INCHES UNLESS NOTED

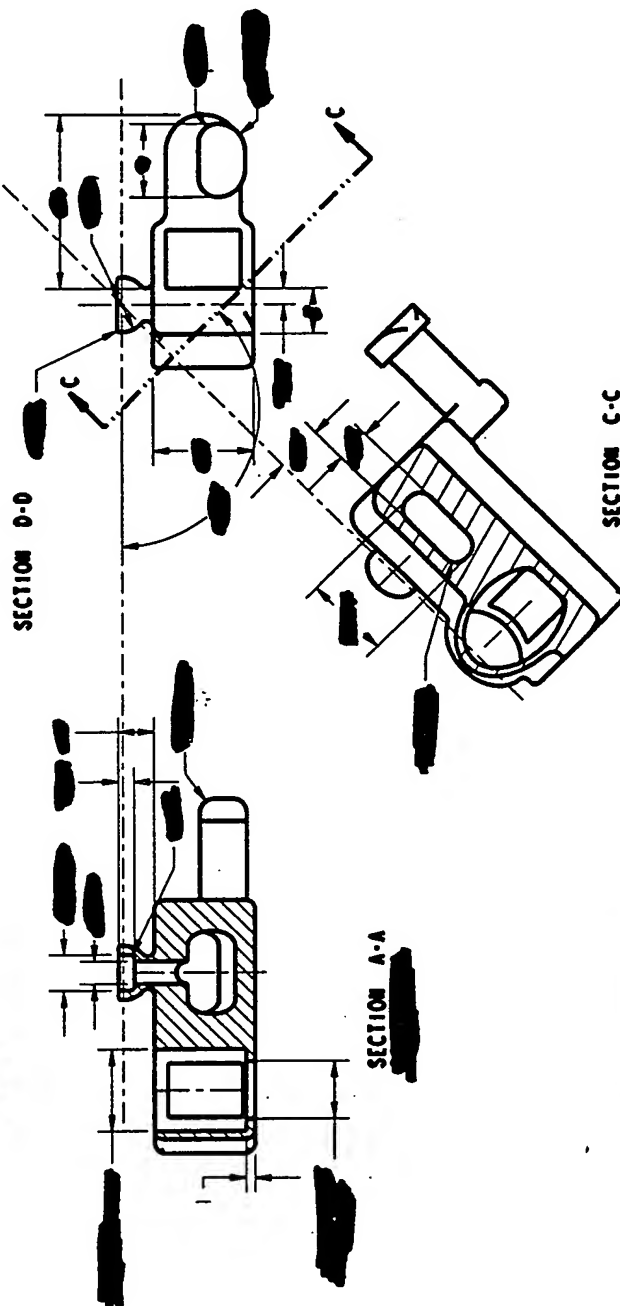
INFORMATION CONTAINED IN THIS
DOCUMENT IS CONSIDERED PROPRIETARY
BY MEDTRONIC SOFAMOR DANEK.
RELEASING OTHER THAN TO PERSONS
FOR WHOM IT IS ISSUED IS
PROHIBITED. MEDTRONIC SOFAMOR DANEK IS NOT
RESPONSIBLE FOR THE USE OF THIS
DRAWING.

1.5. Yang

Joe A. Curtis

Jeffrey B. Baker



REV	DESCRIPTION	DATE	BY
A	INITIAL RELEASE	11-11-68	JSY



SECTION D-D

SECTION A-A

SECTION C-3

<p>INFORMATION CONTAINED IN THIS DOCUMENT IS CONSIDERED PROPRIETARY BY MEDTRONIC SOFAMOR DANEK. RELEASE OTHER THAN TO PERSONS PERFORMANCE OF THEIR WORK FOR MEDTRONIC SOFAMOR DANEK IS NOT AUTHORIZED.</p>	<p>TOLERANCE UNLESS SPECIFIED IN MILLIMETERS</p> <p>±0.1</p> <p>ANGLES ±2°</p> <p>1. DO NOT SCALE DIMENSIONS ON THE MEDTRONIC SOFAMOR DANEK DRAWINGS ALL DIMENSIONS AND ANGLES UNLESS OTHERWISE NOTED</p> <p>2. EXCEPT ALL DIMENSIONS AND ANGLES UNLESS OTHERWISE NOTED</p> <p>3. A.S.P. / 10/10/10 UNLESS NOTED</p>	 <p>THIRD ANGLE PROJECTION</p>	 <p>Medtronic</p> <p>SOFAMOR DANEK</p> <p>MEDTRONIC SOFAMOR DANEK MANUFACTURING 1000 PLEASANT PLACE MEMPHIS TN 38103 U.S.A. PH. 901-398-3110 TEL. 901-398-1575</p> <p>MEDTRONIC SOFAMOR DANEK MANUFACTURING 2540 SUTHERS CROSSING BUREAU IL 60020 U.S.A. PH. 708-871-9400 FAX. 708-874-4322</p>	<p>UNIT NO. JSY</p> <p>DATE BY</p> <p>APPROVED</p> <p>CHECK BY</p> <p>DATE</p> <p>UNIT NO.</p> <p>DATE BY</p> <p>APPROVED</p> <p>CHECK BY</p> <p>DATE</p>	<p>SYSTEM NAME</p> <p>848-955-02</p> <p>ITEM DESCRIPTION</p> <p>LOCKING DISTRACTOR BODY</p> <p>UNIT NO.</p> <p>DATE BY</p> <p>APPROVED</p> <p>CHECK BY</p> <p>DATE</p>	<p>CD HORIZON ECLIPSE</p> <p>848-955</p> <p>848-955-02</p>
--	---	---	--	---	--	--

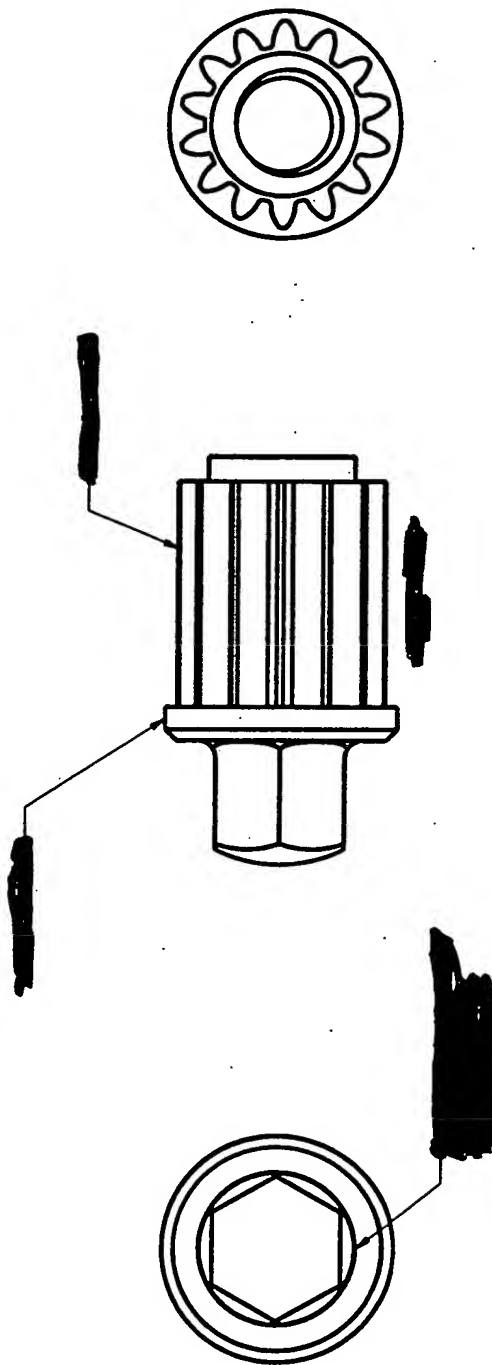
J.S. Young
[REDACTED]
Joe D. Custer
[REDACTED]
Jeffrey W. Bar
[REDACTED]

00142
 18-9-0814

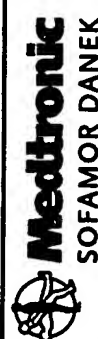
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

REV	DESCRIPTION	DATE	BY
A	INITIAL RELEASE		JSY

848-950-03



CIT NO JSY		848-950-03	848-950	CD HORIZON ECLIPSE
DATE IT		PIT DESCRIPTION		
APPROVED		PITON ASSEMBLY		
DATE		PITON		
SCALE		SCALE		
NTS		848-950-03		



SOFAMOR DANEK

NEOTRONIC SOFAMOR DANEK
 1500 PLYMOUTH PLACE, SUITE 100, DALLAS, TEXAS 75201 U.S.A.
 TEL: 214-761-1955 FAX: 214-761-1956

<p>1. DO NOT SCALE DRAWING</p> <p>2. REMOVE ALL DIMENSIONS</p> <p>3. 0.01/THIRTY THOUSETH NOTED</p>	<p>1. DO NOT SCALE DRAWING</p> <p>2. REMOVE ALL DIMENSIONS</p> <p>3. 0.01/THIRTY THOUSETH NOTED</p>
---	---

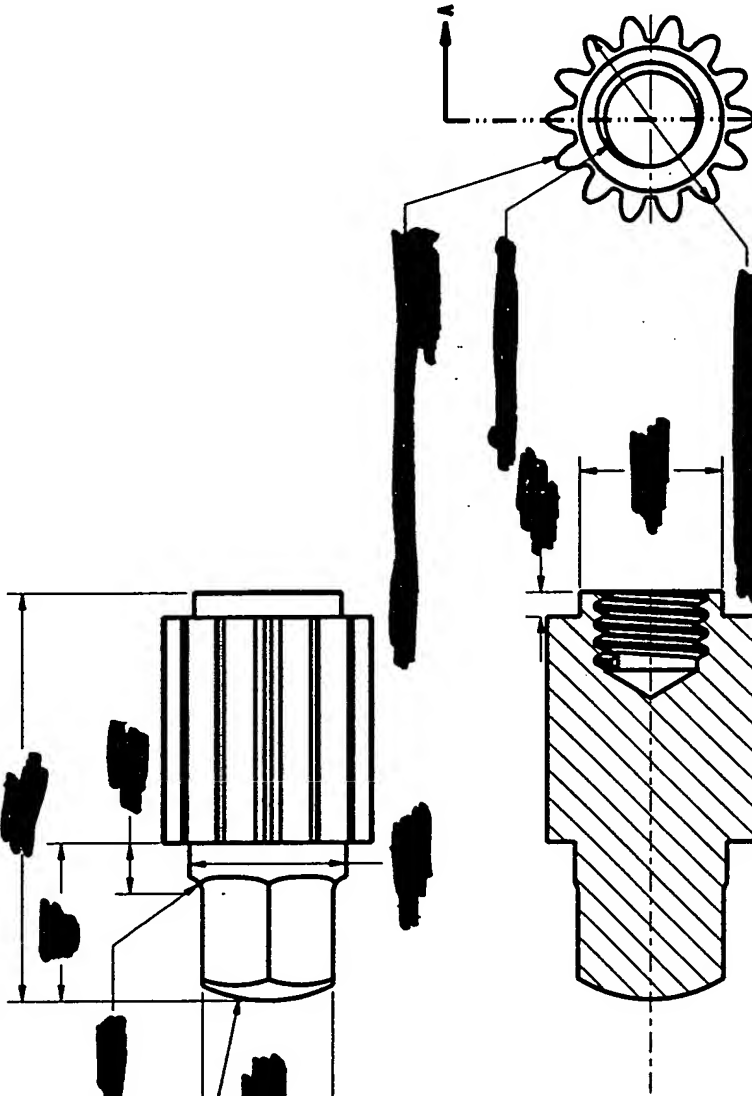
J.S. Yang
 Joe A. Ant
 Jeff W. Fox

00142
 18-10-0614

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

REV	DESCRIPTION	DATE	BY
A	INITIAL RELEASE		JSY

848-950-03-01



SECTION A-A

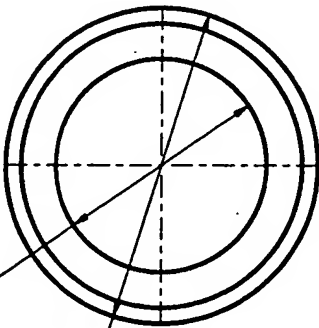
Medtronic SOFAMOR DANEK MEDTRONIC SOFAMOR DANEK MANUFACTURING 1500 PLYMOUTH PLACE, MINNETONKA, MN 55345 U.S.A. TEL: 952-835-3133 FAX: 952-835-3135		ORDER NO. 848-950-03-01	CD HORIZON ECLIPSE
TITLE COMPRESSOR PINION		DATE 18-10-06	SCALE 1:1
APPROVED [Signature]		CHECKED [Signature]	DRAWN [Signature]

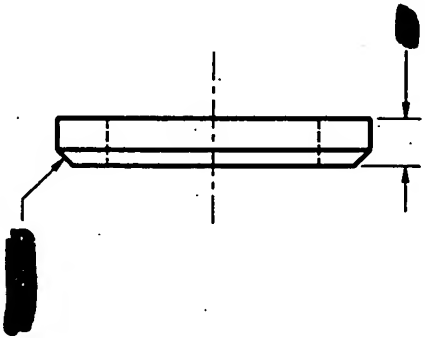
ERF002 REV A 01/01/01

15. Yang
 J. A. Carter
 [Signature]

00142
PS-11 0814

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
REV DESCRIPTION															
A INITIAL RELEASE															
DATE BY															
A [REDACTED] JSY															
848-950-03-02															





Medtronic SOFAMOR DANEK MEDTRONIC SOFAMOR DANEK MEDTRONIC SOFAMOR DANEK MANUFACTURING 1800 VICTORY PLACE, NEWBURGH, NY 10950 U.S.A. TEL: 914-364-1535 FAX: 914-364-4322		CD HORIZON ECLIPSE PINION WASHER 848-950-03-02 848-950-03-02	
DATE BY [REDACTED] JSY	DATE BY [REDACTED] JSY	DATE BY [REDACTED] JSY	DATE BY [REDACTED] JSY
TOLERANCE UNLESS SPECIFIED MILLIMETERS ± 0.1 ANGLES $\pm 1^\circ$		TITAN TITAN TITAN TITAN	
INFORMATION CONTAINED IN THIS DOCUMENT IS UNCLASSIFIED EXCEPT WHERE SHOWN OTHERWISE BY MEDTRONIC SOFAMOR DANEK. RELEASE UNDER E.O. 13526. FOR WHICH IT IS REQUIRED IN PERFORMANCE OF TITLE WORK FOR MEDTRONIC SOFAMOR DANEK IS NOT AUTHORIZED.		1. DO NOT SCALE DRAWING 2. REPORT ALL DIMENSIONS 3. 0.015 INCH UNLESS NOTED	

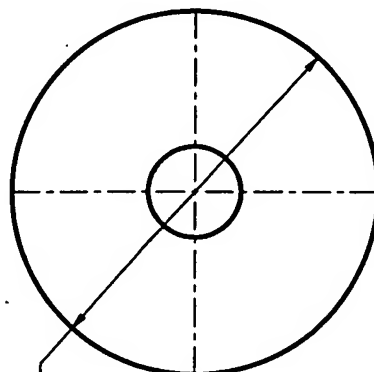
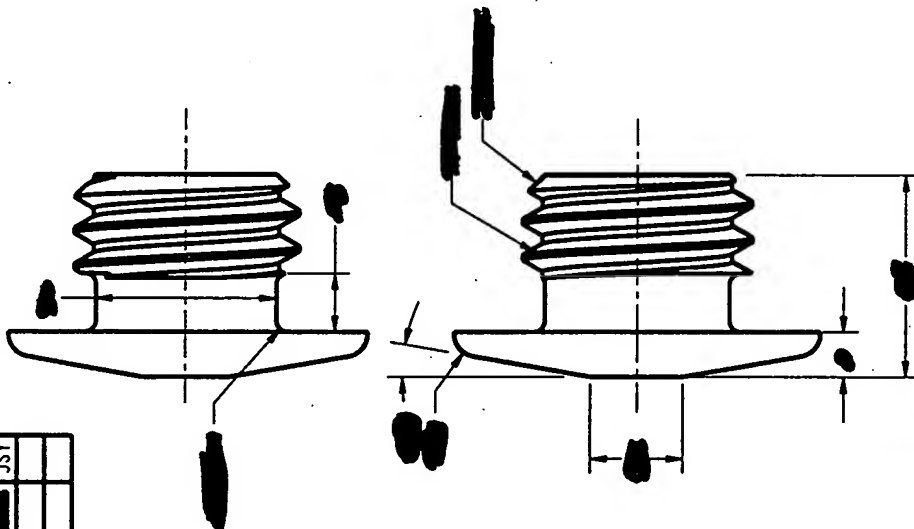
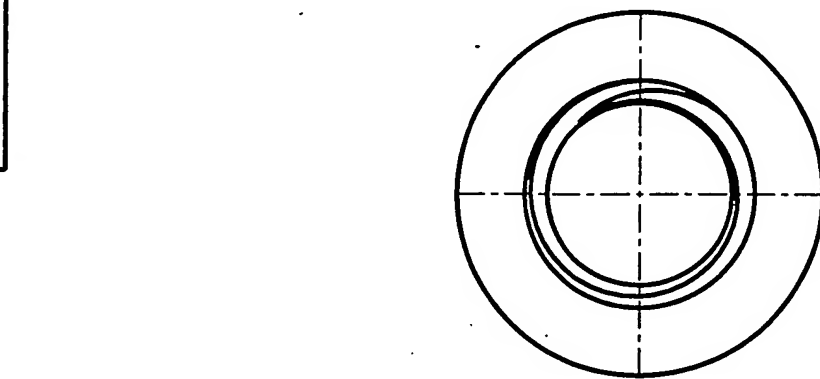
J.S. Young
Joe A. Curtis
[REDACTED]

00142
PF-12 0614

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

REV	DESCRIPTION	DATE	BY
A	INITIAL RELEASE		JSY

848-950-04



PART NO. 848-950-04		CD HORIZON ECLIPSE	
ITEM DESCRIPTION		COMPRESSOR PINION RETAINING SCREW	
DATE	DATE	DATE	DATE
APPROVED	APPROVED	APPROVED	APPROVED
SIGNED	SIGNED	SIGNED	SIGNED
848-950-04		848-950-04	

Medtronic
SOFAMOR DANEK
MEDTRONIC SOFAMOR DANEK MANUFACTURING
1000 PIEDMONT PLACE, MEMPHIS IN 38103 U.S.A. TEL. 901-344-1235 FAX. 901-344-1232

THIRD ANGLE PROJECTION
CONTENTS OF THIS DRAWING ARE BASED ON THE MEDTRONIC SOFAMOR DANEK INTERPRETATION OF THE T10-SP-104

TOLERANCE UNLESS SPECIFIED
DIMENSIONS IN MILLIMETERS
±0.1
ANGLES ±°

1. DO NOT SCALE DRAWING
2. REPORT ALL DIMENSIONS AND TOLERANCES TO THE T10-SP-104
3. 2/P/10/10 UNLESS NOTED OTHERWISE

Joe A. Carter
J.S. Young
Jeffrey W. Lee

00142
18-13 0814

REV	DESCRIPTION	DATE	BY
A	INITIAL RELEASE		JSY

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----

										Medtronic SOFAMOR DANEK MEDTRONIC SOFAMOR DANEK MANUFACTURING 1100 PLYMOUTH PLACE, BURLINGTON, VT 05405 U.S.A. TEL: 802-244-3333 FAX: 802-244-3335		CD HORIZON ECLIPSE 848-955-05 848-955-01	
INFORMATION CONTAINED IN THIS DOCUMENT IS UNCLASSIFIED EXCEPT WHERE SHOWN OTHERWISE. IT IS THE POLICY OF THE MEDTRONIC SOFAMOR DANEK COMPANY TO RELEASE INFORMATION TO THE PUBLIC WHEN IT IS REQUESTED FOR THE PURPOSE OF THE PROTECTION OF THE PUBLIC HEALTH AND SAFETY.										DISTRACTOR LOCK BAR 848-955-01		DATE APPROVED DATE SCALE	

for A. Cutt

J.S. Long

Jeffrey W. Bae

